

Remarks

Support for the above-requested amendments to claims 7, 28, 31, 34, and 35 is found at least on page 6, lines 20-26 and in Figure 2. Support for the amendments to claims 39 and 47 is found at least on page 5, lines 16-22. Support for the amendments to claims 44 and 45 is found at least in the paragraph bridging pages 6 and 7. Support for the amendments to claim 46 is found at least at page 8, lines 9-16. No question of new matter arises and entry of the amendments is respectfully requested.

Claims 7, 11-14, and 28-54 are before the Examiner for consideration.

Examiner Interview

Applicants wish to thank the Examiner for the courteous interview conducted on November 7, 2008. Applicants believe that the interview helped to advance the prosecution of this application.

During the interview, Applicants' representative discussed the Bohy and Loeffler references in view of the outstanding rejections under 35 U.S.C. §102(b) and argued that the nozzles of Bohy and Loeffler are not air emitting nozzles. Applicants' representative also proposed claim amendments to remove the current rejections. The Examiner indicated that although amendments may be made to overcome the outstanding rejections, new prior art rejections would likely be presented in a new Office Action.

Rejection under 35 U.S.C. §112, second paragraph

Claims 44-45 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the Examiner asserts that the terms "front" and "rear" recited in claims 44 and 45 are unclear because it is not clear exactly what is the front and back of the apparatus. In addition, the Examiner asserts that the specification states that reference numeral 110 represents the front of the apparatus and reference numeral 112 represents the rear of the apparatus; however, reference numeral 110 is the side that does not contact the applicator.

In response to this rejection, Applicants have amended claims 44 and 45 to define the front and rear sides of the apparatus relative to the side of the size applicator that the filaments contact. Additionally, Applicants respectfully submit that a comparison of Figure 1 and Figure 3 clearly shows that reference numeral 110 is indeed on the side of the apparatus

where the filaments contact the size applicator. Therefore, Applicants submit that, as amended, claims 44 and 45 are sufficiently definite and respectfully request reconsideration and withdrawal of this rejection.

Rejection under 35 U.S.C. §112, first paragraph

Claims 46-51 have been rejected under 35 U.S.C. §112, first paragraph for lack of enablement. Specifically, the Examiner asserts that there is no support for a manifold that conveys both a gas and a liquid to the nozzles. The Examiner asserts that one manifold conveys one fluid and another manifold conveys the other fluid.

In response to this rejection, Applicants have amended claims 46 and 47 to recite two separate manifolds, namely, a first manifold connected to the atomizers to convey water and a second manifold connected to the atomizers to convey compressed air. Applicants respectfully submit that claims 46 and 47, as amended, are fully enabled by the specification and respectfully request that the Examiner reconsider and withdraw this rejection.

Rejection Under 35 U.S.C. §102(b)

Claims 7, 12, 13, 28-38, and 52 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,071,341 to Bohy, *et al.* ("Bohy"). The Examiner asserts that Bohy teaches an apparatus that includes a bushing, two nozzles, and a gathering shoe. Additionally, the Examiner asserts that all of the limitations regarding the fluids are met because they are intended use limitations that the apparatus of Bohy could utilize. Further, the Examiner asserts that the teaching of Bohy that a liquid can flow through the nozzles evidences that a free path exists in the nozzle. The Examiner concludes that Bohy can inherently meet the functional claim limitation that the nozzle can conduct the flow of air.

In response to this rejection, Applicants respectfully submit that Bohy does not teach (or suggest) an air nozzle operable to conduct the flow of air as is required in each of independent claims 7, 28, 31, 34, and 35.¹ In the outstanding Office Action, the Examiner asserts that since Bohy discloses that liquid can flow through the nozzle, it is reasonable to conclude that Bohy can inherently flow air through the nozzle. (*See, e.g.*, page 6, first full paragraph of the Office Action dated August 27, 2008). In this regard, Applicants note that

¹ It is to be appreciated that the means for emitting air defined by independent claim 35 is specifically described as an air nozzle operable to conduct the flow of air in dependent claim 36.

inherency cannot be established by probabilities or possibilities. (*See, e.g., Manual of Patent Examining Procedure*, Patent Publishing, LLC, Eighth Ed., Rev. 6, August 2007, §2112). Moreover, to establish inherency, the extrinsic evidence “must make clear that the missing descriptive matter is *necessarily present* in the thing described in the reference, and that it would be recognized by persons of ordinary skill” (emphasis added). (*See Manual of Patent Examining Procedure*, Patent Publishing, LLC, Eighth Ed., Rev. 6, August 2007, §2112 citing *In Re Robertson*, 169 F.3d, 743, 745 39 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)). The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. (*Id.*).

Applicants respectfully submit that it is not inherent from the disclosure of Bohy that the nozzles may emit air. Bohy teaches that nozzle 15 is used to spray water onto the glass filaments as they leave the bushing to cool them. (*See, e.g.,* column 3, lines 23-25). Bohy also teaches that the jets 13 may spray water alone or they may spray an additional lubricant material. (*See, e.g.,* column 3, lines 51-56). In addition, Bohy teaches that nozzle 13 does not spray the binder or size. (*See, e.g.,* column 3, lines 55-58). Thus, Bohy teaches that the jets are not for spraying *any* material. The jets are specifically to be used for water or water and/or a lubricant. There is no teaching anywhere within Bohy that the jets can be used to spray air or any other substance, be it liquid or gaseous. The mere assertion that the jets *may* be used to emit something other than the water or lubricant taught by Bohy is simply *not* sufficient to establish a proper rejection under 35 U.S.C. §102 based on an inherent feature or component. As discussed above, inherency cannot be established by mere probabilities or possibilities. Accordingly, this rejection must fail.

Notwithstanding the above, Applicants respectfully direct the Examiner’s attention to independent claims 7, 28, 31, 34, and 35 and submit that claims 7, 28, 31, 34, and 35 define apparatuses for cooling filaments that are not disclosed (or suggested) in Bohy. In particular, Applicants submit that there is no teaching (or suggestion) within Bohy of an apparatus that includes an air nozzle operable to conduct the flow of air (or a means for emitting air) and a fluid nozzle (or a means for emitting water) operable to conduct the flow of liquid at the same time the air nozzle conducts the flow of air. Indeed, Bohy is silent with respect to any teaching or suggestion of the simultaneous use of two nozzles, especially an air nozzle and a fluid nozzle. In Bohy, jets 13 are activated when a strand breakout occurs. (*See, e.g.,* column 4, lines 12-15). It is taught that the activation of the jets 13 permits the operator to “milk” the

filaments from the bushing and correct the filament breakout without coming into contact with the binder and/or size coated strand. (*See, e.g.*, column 4, lines 15-32). Further, the waste strand is not coated with the binder and/or size, which reduces binder and/or size consumption. (*See, e.g.*, column 4, lines 25-32). As is additionally taught at column 3, lines 51-53, the filaments are sprayed with a lubricant from spray jets 13 when the filaments are removed from the application surface 32. It is respectfully submitted that these disclosures set forth in Bohy clearly teach the use of the water jets 15 or the water/lubricant jets 13, but not both at the same time. Therefore, Applicants submit that there is no teaching (or suggestion) anywhere within Bohy of an air nozzle operable to conduct air and a liquid nozzle operable to conduct a liquid at the same time the air nozzle conducts air as is required by claims 7, 28, 31, 34, and 35.

In order for a reference to be anticipatory, each and every element of the claimed invention must be found within the four corners of the cited reference. Because Bohy does not teach an apparatus for cooling filaments in a filament forming process that contains an air nozzle operable to conduct air and a liquid nozzle operable to conduct a liquid while the air nozzle conducts air, Applicants respectfully submit that Bohy is not an anticipatory reference. Accordingly, Applicants submit that independent claims 7, 28, 31, 34, and 35, and all claims dependent therefrom, are not anticipated by Bohy.

In view of the above, Applicants submit that claims 7, 12, 13, 28-38, and 52 are not anticipated by Bohy and respectfully request that this rejection be reconsidered and withdrawn.

Rejection Under 35 U.S.C. §102(b)

Claims 39, 41-48, and 50-51 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,168,959 to Loeffler ("Loeffler"). The Examiner asserts that the figures show that Loeffler has a set of nozzles on the upstream side of the forming tube and a set of nozzles on the downstream side. It is asserted that the downstream side applicator is a size applicator and the upstream side applicator is an atomizer nozzle. Additionally, the Examiner asserts that the batt is sprayed first at the upstream side sprayers when the batt is in its initial stages and subsequently by the downstream sprayers.

In response to this rejection, Applicants respectfully direct the Examiner's attention to the amendments made to claims 39 and 47 and submit that claims 39 and 47 define

apparatuses for cooling filaments in a filament forming process that are not taught (or suggested) by Loeffler. Specifically, Applicants submit that there is no teaching (or suggestion) within Loeffler of an apparatus that includes a gathering shoe to gather the filaments into a strand. Indeed, Loeffler is silent with respect to any teaching (or suggestion) of a gathering shoe at any location of the apparatus for any purpose. As discussed above, in order for a reference to be anticipatory, each and every element of the claimed invention must be found within the four corners of the cited reference. Because Loeffler does not teach the inclusion of a gathering shoe in an apparatus for cooling filaments as required by claims 39 and 47, Loeffler cannot be an anticipatory reference. Accordingly, Applicants submit that independent claims 39 and 47, and all claims dependent therefrom, are not anticipated by Loeffler. Applicants therefore respectfully request that this rejection be reconsidered and withdrawn.

Rejection under 35 U.S.C. §103(a)

Claims 40 and 49 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,167,959 to Loeffler ("Loeffler"). The Examiner asserts that the angles claimed in claims 40 and 49 are result-effective variables. The Examiner states that it would have been obvious to one of skill in the art to perform routine experimentation to determine the optimal angle based on the desired spray result.

In response to this rejection, Applicants respectfully direct the Examiner's attention to the amendments made to independent claims 39 and 47 and submit that claims 37 and 49 define apparatuses for cooling filaments in a filament forming process that are not taught or suggested within Loeffler. Applicants submit that there is no teaching or suggestion within Loeffler of an apparatus for cooling filaments in a filament forming process that includes (1) a bushing having a bottom plate from which filaments emanate, (2) at least one atomizer nozzle operable to spray an atomized liquid, and (3) a gathering shoe to gather the filaments into a strand, where the at least one atomizer nozzle is positioned downstream of the bushing and is oriented to convey the atomized liquid to the filaments (claim 1) or an apparatus for cooling filaments in a filament forming process that includes (1) a bushing having a bottom plate from which filaments emanate, (2) a row of atomizer nozzles operable to spray an atomized liquid, (3) a size applicator, (4) a gathering shoe to gather the filaments into a strand, (5) a first manifold connected to the row of atomizer nozzles to convey a compressed

gas thereto, and (6) a second manifold connected to the row of atomizer nozzles to convey a liquid thereto, where the row of atomizer nozzles is positioned downstream from the bushing and upstream of the size applicator at an orientation relative to a horizontal plane parallel to the bottom plate of the bushing to convey the atomized liquid to the filaments (claim 47).

Loeffler teaches stationary forming tubes to convey and deposit fibers randomly onto a moving conveyor. (*See, e.g.*, column 2, lines 40-47, column 6, lines 12-17, and Figures 1 and 3). The forming tubes may be individually maneuvered to direct the deposition of fibers to fill low regions on the mat profile so that a satisfactory level mat profile can be achieved. (*See, e.g.*, column 2, lines 52-58 and column 6, lines 17-22). In Loeffler, the fibers are deposited loosely onto the conveyor, such as to form an insulation batt. (*See, e.g.*, column 3, lines 1-7). Applicants submit that there is simply no teaching or suggestion anywhere within Loeffler of an apparatus that includes a gathering shoe to gather the filaments into a strand. Indeed, Loeffler is silent with respect to any teaching or suggestion of a gathering shoe.

As is well established, in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. (*See, e.g., Manual of Patent Examining Procedure*, Patent Publishing, LLC, Eighth Ed., Rev. 6, August 2007, §2142). As discussed above, Loeffler does not teach or suggest the inclusion of a gathering shoe as is required by claims 39 and 47. Therefore, Applicants respectfully submit that Loeffler fails to teach all of the claim limitations. Accordingly, it is submitted that a *prima facie* case of obviousness has not been established, and, as a result, this rejection must fail.

In view of the above, it is respectfully submitted that independent claims 39 and 47 are not taught or suggested by Loeffler and that claims 39 and 47 are therefore non-obvious and patentable. Because claims 40 and 49 are dependent upon claims 39 and 47, respectively, which are not taught or suggested by Loeffler as discussed above and because claims 39 and 47 contain the same elements as the claim from which they depend, it is submitted that dependent claims 40 and 49 are also not taught or suggested by Loeffler. Accordingly, Applicants submit that claims 40 and 49 are non-obvious and patentable over Loeffler and respectfully request that this rejection be reconsidered and withdrawn.

Rejection under 35 U.S.C. §103(a)

Claims 11, 14, and 54 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,071,341 to Bohy, *et al.* ("Bohy") as applied to claims 7, 13, and 28 above, and further in view of U.S. Patent No. 4,167,959 to Loeffler ("Loeffler"), and optionally in view of Applicants' asserted admission in the Response filed June 26, 2006. The Examiner admits that Bohy does not disclose a manifold. In this regard, Loeffler is cited for teaching that it is known in the art to use headers/manifolds to supply fluids to sprayers in the glass fiber art. The Examiner concludes that it would have been obvious to one of skill in the art to supply fluids to the sprayers of Bohy by using a header/manifold as taught by Loeffler.

In response to this rejection, Applicants respectfully direct the Examiner's attention to independent claims 7 and 28 and submit that claims 7 and 28 define apparatuses for cooling filaments that are not taught or suggested by Bohy and/or Loeffler and/or Applicants' asserted admission. In addition, Applicants respectfully submit that Bohy and Loeffler do not teach or suggest the combination of features claimed in independent claims 7 and 28.

Applicants submit that neither Bohy nor Loeffler teaches or suggests an apparatus for cooling filaments in a filament forming process that includes an apparatus that includes an air nozzle operable to conduct the flow of air and a fluid nozzle operable to conduct the flow of liquid at the same time the air nozzle conducts the flow of air as is required by each of independent claims 7 and 28. In Bohy, jets 13 are activated when a strand breakout occurs. (*See, e.g.*, column 4, lines 12-15). It is taught that the activation of the jets 13 permits the operator to "milk" the filaments from the bushing and to correct the filament breakout without coming into contact with the binder and/or size coated strand. (*See, e.g.*, column 4, lines 15-32). As is additionally taught at column 3, lines 51-53, the filaments are sprayed with a lubricant from spray jets 13 when the filaments are removed from the application surface 32. It is respectfully submitted that these disclosures set forth in Bohy clearly teach the use of the water jets 15 or the water/lubricant jets 13, but not both jets 13 and jets 15 at the same time. Loeffler is silent with respect to any teaching or suggestion of the simultaneous use of an air nozzle and a fluid nozzle, and as such, cannot make up for the deficiencies of Bohy. Accordingly, it is respectfully submitted that the combination of the

teachings of Bohy and Loeffler would not result in the inventive apparatuses of claim 7 and 28.

In addition, Applicants submit that there is no motivation for one of skill in the art to arrive at the apparatuses of claims 7 and 28 based on the disclosures of Bohy and/or Loeffler (and/or Applicants' asserted admission). To establish a *prima facie* case of obviousness, there must be some motivation, either within the reference or in the knowledge of those of skill in the art, to modify the reference or combine the references' teachings, there must be a reasonable expectation of success, and the prior art references must meet all of the claim limitations. (See, e.g., *Manual of Patent Examining Procedure*, Patent Publishing, LLC, Eighth Ed., Rev. 6, August 2007, §2142). It is respectfully submitted that one of ordinary skill in the art would have no motivation to arrive at apparatuses claimed in claims 7 and 28 based on the teachings of Bohy and Loeffler because both Bohy and Loeffler are silent as to any teaching or suggestion of an apparatus that includes an air nozzle operable to conduct air and a liquid nozzle operable to conduct a liquid at the same time the air nozzle conducts air. Accordingly, one of ordinary skill in the art would not be motivated to form an apparatus that includes an air nozzle operable to conduct the flow of air and a fluid nozzle operable to conduct the flow of a liquid at the same time as the air nozzle conducts the flow of air based on the teachings of Bohy and/or Loeffler. Without some teaching or suggestion, there can be no motivation, and without motivation, there can be no *prima facie* case of obviousness.

Also, as discussed above, neither Bohy nor Loeffler teaches or suggests an apparatus that includes an air nozzle operable to conduct air and a liquid nozzle operable to conduct a liquid at the same time the air nozzle conducts air. Therefore, Applicants respectfully submit that Bohy and Loeffler, alone or in combination, fail to teach all of the claim limitations set forth in claims 7 and 28. Accordingly, it is submitted that a *prima facie* case of obviousness has not been established for this additional reason.

In view of the above, it is respectfully submitted that independent claims 7 and 28 are not taught or suggested by Bohy and Loeffler and/or Applicants' asserted admission, either alone or in any combination, and that claims 7 and 28 are therefore non-obvious and patentable. Because claims 11, 14, and 54 are dependent upon claims 7 or 28, which are not taught or suggested by Bohy and/or Loeffler (or Applicants' asserted admission) as discussed above and because claims 11, 14, and 54 contain the same elements as the claim from which

they depend, it is submitted that dependent claims 11, 14, and 54 are also not taught or suggested by Bohy and Loeffler and/or Applicants' asserted admission.

In light of the above, Applicants submit that claims 11, 14, and 54 are non-obvious and patentable over Bohy and Loeffler and/or Applicants' asserted admission and respectfully request reconsideration and withdrawal of this rejection.

Rejection under 35 U.S.C. §103(a)

Claim 53 has have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,071,341 to Bohy, *et al.* ("Bohy") as applied to claim 28 above, and further in view of U.S. Patent No. 6,161,778 to Haruch ("Haruch"). The Examiner asserts that Haruch teaches an improved cooling nozzle. The Examiner concludes that it would have been obvious to one of skill in the art to use the Haruch nozzle as the Bohy cooling nozzle to achieve the advantages taught by Haruch.

In response to this rejection, Applicants respectfully direct the Examiner's attention to independent claim 28 and to the arguments set forth above with respect to the rejection of claims 11, 14, and 54 under 35 U.S.C. §103(a) over Bohy in view of Loeffler and optionally in view of Applicants' asserted admission in the Response filed June 26, 2006, and submit that claim 28 defines an apparatus for cooling filaments in a filament forming apparatus that is not taught or suggested within Bohy (and Loeffler, and/or Applicants' admission). As discussed above, Bohy clearly teaches the use of the water jets 15 or the water/lubricant jets 13, but not both jets 13 and jets 15 at the same time. (*See, e.g.*, column 4, lines 12-32). Applicants submit that the teachings of Haruch do not add to the Examiner's rejection so as to make claim 28 unpatentable. Even with the addition of the teachings of Haruch, Bohy still does not teach or suggest an apparatus that includes an air nozzle operable to conduct the flow of air and a fluid nozzle operable to conduct the flow of liquid at the same time the air nozzle conducts the flow of air. As such, it is submitted that the combination of Bohy and Haruch does not teach or suggest Applicants' invention as recited in claim 28. Because claim 53 is dependent upon claim 28, which, as discussed in detail above, is not taught or suggested by Bohy and Haruch, Applicants submit that claim 53 is also not taught or suggested by Bohy and Haruch.

In view of the above, Applicants respectfully submit that claim 53 is non-obvious and patentable over Bohy and Haruch and respectfully request that the Examiner reconsider and withdraw this rejection.

Conclusion

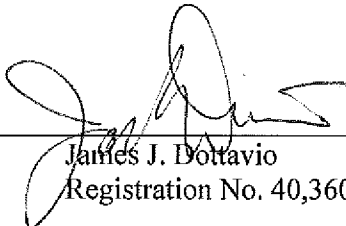
In light of the above, Applicants believe that this application is now in condition for allowance and therefore request favorable consideration.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

If necessary, the Commissioner is hereby authorized to charge payment or credit any overpayment to Deposit Account No. 50-0568 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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